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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/687,431	10/16/2003	Dale W. Schroeder	10030185-1	8035

7590 04/26/2006

AGILENT TECHNOLOGIES, INC.  
Legal Department, DL 429  
Intellectual Property Administration  
P.O. Box 7599  
Loveland, CO 80537-0599

EXAMINER
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WU, XIAO MIN

ART UNIT	PAPER NUMBER
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2629

DATE MAILED: 04/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/687,431	<b>Applicant(s)</b> SCHROEDER ET AL.	
	<b>Examiner</b> XIAO M. WU	<b>Art Unit</b> 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 16 October 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 October 2003 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Victor et al. (US Patent No. 4,751,380).

As to claim 1, Victor discloses a method for tracking motion across a surface, said method comprising: creating an interference pattern (35, Fig. 3) by reflecting light from said surface (see Fig. 4, and col. 4, lines 46-62); producing, as a result of a sensor (25, Fig. 3) moving across said surface (col. 4, lines 35-45), at least one signal pattern (Fig. 5) corresponding to a detection of an aspect of said interference pattern; and associating said detected aspect with an assumed value to determine a distance traveled by said sensor (see Fig. 6 and col. 8, lines 20-41).

As to claims 2, 18, Victor discloses using, as said assumed value, a statistical average of anticipated values for said interference pattern. For example, Victor discloses that the vertical grid lines 41 and 43 and the horizontal grid lines 37 and 39 have approximately the same line wide W. Each set of the grid lines is made up of parallel uniformly spaced grid lines. The spaces 45 are of uniform size with a width approximately equal to the lines width. Typically, the line width W is about 0.5 mm for both vertical and horizontal grid lines. In other word, the statistical average of anticipated values for the interference patten is 0.5X0.5 mm<sup>2</sup>.

As to claims 3, 11, 12, 16, 20, Victor discloses the light is coherent light, and wherein the

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aspect is a dimension of a single speckle or a dimension between two speckles (see 16, Fig. 1 and 18, Fig. 1a; also see col. 5, lines 3-5).

As to claim 4, Victor discloses the assumed value is an average width or length of said speckles (e.g. the average width or length is 0.5 mm).

As to claims 5, 13, Victor discloses the average width or length of said speckles is statistically derived from a range of anticipated speckle widths or lengths. (See col. 4, lines 64 to col. 5, line 5).

As to claims 6, 14, Victor discloses the sensor is incorporated into a computer navigational device (Fig. 5).

As to claims 7-9, Victor discloses linking a plurality of sensors (e.g. A, B, C D, E, F, G, Fig. 3 and 5), wherein each sensor produces a signal pattern corresponding to a detection of an aspect of said interference pattern; and comparing said signals of said linked sensors to determine a direction traveled by said computer navigational device. (See Fig. 5 and col. 7, lines 15-50).

As to claim 10, Victor discloses assuming an aspect of said interference pattern is a constant value (e.g. the space size is  $0.5 \times 0.5 \text{ mm}^2$ ).

As to claim 15, Victor discloses a device to input navigational information into a computer, said device comprising: a source of electromagnetic radiation (e.g. light source 15) producing an interference pattern (35, Fig. 4); and an arrangement of sensors (25), wherein each of said sensors produces a signal pattern (see 3), said sensors (25) producing a plurality of signal patterns such that when at least two of said signal patterns are linked together the resulting signal can be used to determine a direction of movement of said device (see Fig. 5).

As to claim 17, Victor discloses the arrangement comprises at least three sensors arrayed (e.g. A, B, C, Fig. 3) in a first line and at least three sensors arrayed (A, D, F, Fig. 3) in a second line, wherein said first line and said second line are perpendicular (see Fig. 3).

As to claim 19, Victor discloses the arrangement comprises a plurality of sensors arrayed in an approximate circle (see element 25 as shown in Fig. 3) with at least one sensor (e.g. A, B, C, D, E, F, G, Fig. 3) near the approximate center of said circle.

### ***Conclusion***

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The US Patents 4,390,873, 4,409,479, 4,546,347 and 4,984,287 are cited to teach an optical mouse device.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to XIAO M. WU whose telephone number is 571-272-7761. The examiner can normally be reached on 6:30 am to 4:00 pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, RICHARD HJERPE, can be reached on 571-272-7691. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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x.w.

April 21, 2006



**XIAO M. WU**  
**Primary Examiner**  
**Art Unit 2629**